

Appl. No. 10/708,330  
Amdt. dated August 16, 2006  
Reply to Office action of June 28, 2006

### REMARKS/ARGUMENTS

1. Rejection of claims 1, 2, 4, 6-10, 12 and 14-16 under 35 U.S.C. 103(a) as being unpatentable over Kodate (US 5,748,266) in view of Rho et al. (US 6,862,050) and Yamada (US 6,795,141):

#### Response:

Claim 1 is listed hereinafter for reference:

- 10 Claim 1 A method for fabricating a liquid crystal display (LCD) with a uniform common voltage, the method comprising:
- providing a lower substrate having a display area and a non-display area;
  - forming a plurality of scan lines, a plurality of common electrodes, and a plurality of common electrode pads on an upper surface of the lower substrate simultaneously, wherein the common electrodes are used for transmitting a common voltage and are positioned at the same plane as a plane where the common electrode pads are positioned on the lower substrate, and the common electrode pads are electrically connected to the common electrodes;
  - forming a plurality of data lines on the upper surface of the lower substrate, wherein the data lines are arranged perpendicular to the scan lines to form a pixel matrix in the display area, the pixel matrix comprising a plurality of pixels;
  - providing an upper substrate having a plurality of color filters, and black matrices disposed between adjacent color filters;
  - forming a plurality of photo spacers on the upper substrate, each photo spacer being in direct contact with edge portions of adjacent color filters, and corresponding to one of the black matrices and one of the common electrode pads on the lower substrate;
  - forming a conductive material layer on the upper substrate to make the conductive

Appl. No. 10/708,330  
Amdt. dated August 16, 2006  
Reply to Office action of June 28, 2006

material layer cover the surface of the photo spacers;  
combining the upper substrate and the lower substrate face to face by using the photo  
spacers to support a space between the upper substrate and the lower substrate,  
and electrically connecting the conductive material layer covering the surface of  
5 each of the photo spacers to the common electrode pads corresponding to each  
of the photo spacers; and  
filling a plurality of liquid crystal molecules in the space between the upper substrate  
and the lower substrate, and sealing the space between the upper substrate and  
the lower substrate.

10

The method of claim 1 claims the limitation "Each photo spacer is in direct contact with edge portions of adjacent color filters, and corresponding to one of the black matrices".

15      Regarding US 5,748,266, Kodate lacks disclosure of:

1) The spacers are photo spacers:

Kodate's spacers are **not** photo spacers.

2) Each photospacer is in direct contact with edge portions of adjacent color filters:

20      Kodate's spacer (pillar) 78 is in contact with the color filter 32, but **not in contact with the edge portions of adjacent color filters** (between color filters of different colors).

3) Each of the photo spacers corresponds to one of the black matrices:

Kodate's spacer does not correspond to the black matrix, because his spacer is disposed **inside** pixel region.

25      Regarding US 6,862,050, Rho discloses an LCD having photo spacers. However, the photo spacers 190 of Rho's teaching are disposed on the surface of the common electrode 180 as shown in Rho's Figs.13-14. In other words, the photo spacers 190 are in contact with the common electrode 180, instead of the color filter 160. Therefore, Rho fails to

Appl. No. 10/708,330  
Amdt. dated August 16, 2006  
Reply to Office action of June 28, 2006

teach the limitation "each photo spacer being in direct contact with **edge portions** of adjacent color filters". In addition, Rho's black matrix 110 is formed on the lower substrate, rather than on the upper substrate.

5       Regarding US 6,795,141, Yamada discloses an LCD having spacers 180 corresponding to BM 150. However, The spacers 180 disclosed by Yamada are disposed on the surface of the electrode layer 140, and are not in contact with the color filter 160 as shown in Yamada's Fig.6. In such a case, Yamada also fails to teach the limitation "the spacers are in direct contact with the edge portions of the color filters" recited in claim 1.

10

      None of the cited arts has disclosed the limitation "the spacers are in direct contact with the **edge portions** of the color filters", and thus the applicant believes claim 1 would not have been obvious to a person of ordinary skill in the art to employ photo spacers in view of the cited prior arts. Thus, claim 1 should be allowed, and reconsideration of claim 1 is politely requested. Claims 2, 4, and 6-8 are dependent on claim 1, and should be allowed if claim 1 is found allowable. Reconsideration of claims 2, 4, and 6-8 is therefore politely requested.

15

      Claim 9 of the instant application also includes the aforementioned limitation "Each photo spacer is in direct contact with edge portions of adjacent color filters, and corresponding to one of the black matrices". Reconsideration of claim 9 in view of the argument made to claim 1 is requested. Claims 10-12 and 14-16 are dependent on claim 9, and should be allowed if claim 9 is found allowable. Reconsideration of claims 10-12 and 14-16 is therefore requested.

20

25       2. Rejection of claims 3 and 11 under 35 U.S.C. 103(a) as being unpatentable over Kodate (US 5,748,266) in view of Rho et al. (US 6,862,050) and Yamada (US 6,795,141) as discussed above and further in view of Kirauchi et al (US 5,917,572):

Appl. No. 10/708,330  
Amdt. dated August 16, 2006  
Reply to Office action of June 28, 2006

**Response:**

Claim 3 is dependent on claim 1, and should be allowed if claim 1 is found allowable. Reconsideration of claim 3 is therefore politely requested.

5

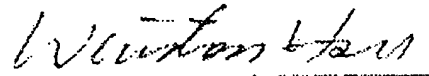
Claim 11 is dependent on claim 9, and should be allowed if claim 9 is found allowable. Reconsideration of claim 9 is therefore politely requested.

10

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

15



Date: 08.16.2006

Winston Hsu, Patent Agent No. 41,526  
P.O. BOX 506, Merrifield, VA 22116, U.S.A.  
Voice Mail: 302-729-1562  
20 Facsimile: 806-498-6673  
e-mail : winstonhsu@naipo.com

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

25